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AUTHORS: Tynnyy, A. N., Chayevskiy, M. I., Teterskiy, V. A.

TITLE: On the possibility of using liquid metallic melts as lubricants

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut mashynoznavstva i avtomatyky, L'viv. Nauchnyye zapiski. Seriya mashinovedeniya. v. 9, 1962, Voprosy mashinovedeniya i prochnosti v mashinostroyenii, no. 8, 41 - 46

TEXT: The authors suggest the use of liquid metallic melts as lubricating materials. When salt melts, containing sulfur and chlorine, are used, modified wear-resistant surface layers are formed during the operation of the parts, as a result of friction. This leads to the suggestion that conventional structural and alloyed metals might be used for units operating at high temperatures. Experiments were carried out with a special worm reducer and Wood's alloy (50% Bi, 12.5% Cd, 25.0% Pb, 12.5% Sn) as a lubricant. The bearings in the reducer assemblies were designed in such a manner that the liquid metallic melt greased only the worm thread and the teeth of the worm gear. The bearings were greased

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with mineral oil. The tests show that the use of Wood's alloy as a lubricant prevents galling of the operational surfaces. The new method will eliminate special devices for the cooling of friction parts in units operating at 500 to 1,000°C and will raise the efficiency of friction pairs. There are 2 figures.

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